

## Patent Claims

1. Method for optimizing emission of broadband transmission pulses  
5 of a pulse echo method, wherein the transmission pulses are transmitted with a preselected pulse repetition frequency (TAKT), characterized in that the polarity of a pulse is switched with each cycle of the pulse repetition frequency (TAKT), depending on a random sequence (PNCode).  
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2. Method for optimizing emission of broadband transmission pulses of a pulse echo method, wherein the transmission pulses are transmitted with a preselected pulse repetition frequency (TAKT), characterized in that individual pulses are suppressed with each cycle of  
15 the pulse repetition frequency (TAKT), depending on a random sequence (PNCode).
3. Method as claimed in one of the claims 1 or 2, characterized in that the pulse repetition frequency (TAKT) is constant.  
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4. Method as claimed in one of the claims 1 or 2, characterized in that the pulse repetition frequency (TAKT) is additionally jittered.
5. Method as claimed in one of the preceding claims 1, 2, 3 or 4,  
25 characterized in that the pulse form of the transmission pulse is of any shape.
6. Circuit for optimizing emission of broadband transmission pulses of a pulse echo method, characterized in that the circuit comprises two  
30 transmission signal generators (Senders A, B) of differing polarity,

between whose output signals switching occurs back and forth, depending on a produced, random sequence (PNCode).

5 7. Circuit for optimizing emission of broadband, transmission pulses of a pulse echo method, characterized in that the circuit comprises two transmission signal generators (Senders A, B) of differing polarity, which are switched in and out, depending on a produced, random sequence (PNCode).

10 8. Circuit for optimizing emission of broadband transmission pulses of a pulse echo method, characterized in that the circuit comprises a transmission signal generator (Sender C) which can be switched in its polarity and which is switched, depending on a produced, random sequence (PNCode).

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9. Circuit as claimed in one of the claims 6, 7 or 8, characterized in that the random sequence (PNCode) is a PN-code sequence produced by a PN-code generator circuit (10).

20 10. Circuit as claimed in claim 9, characterized in that the PN-code generator circuit (10) comprises a multi-stage, shift register (Q1-Qn) having feedback taps.

11. Circuit as claimed in claim 10, characterized in that the circuit includes an XOR-gate for the feedback taps.